

Pages 1 through 8 redacted for the following reasons:

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Updated

FACT SHEET

ISSUE: ICE PELLETS – The Science.

- Ice pellets are tiny chunks of frozen water that often start as snow, descend through a bank of warmer air, melt, then freeze again as they hit colder air before landing as miniature bits of hail. The ice pellets can be 5 mm or less in diameter.
- If the ice pellets are “light” an aircraft can take-off. If the ice pellets are mixed with any other form of precipitation, take-off is not allowed. [*See attached page 2 and 3 with pictures of the instruments used to measure precipitation.*]
- Approximately 70 percent of the ice pellet events are mixed with some other form of precipitation which means no take-offs.
- FAA and Transport Canada conducted tests in 2001 and 2002 that showed how ice pellets could become embedded in anti-icing fluid and remain frozen. In 2004 and 2005, FAA research concluded the human eye was “very poor” at detecting ice formation and human touch “was only marginally better.”
- FAA also believed weather patterns had changed in a way that made ice pellets more prevalent. [*Page 4 shows the mean annual hours of ice pellets in North America over a 14 year time period. The South and West are generally not affected. The Midwest and Mid-Atlantic average 10 hours/year and the Northeast averages 20 hours/year.*]
- There are 3 levels of intensity for ice pellets: light, moderate, and heavy. [*See page 5*] Take-offs are allowed only with light ice pellets.

Updated

FACT SHEET

ISSUE: ICE PELLETS – Regulation.

- For years, ice pellets were of little concern to airlines and regulators because it was thought to occur infrequently and rarely last long. A thorough de-icing with chemicals and a treatment of anti-icing fluid was deemed sufficient for take-off.
- Then on October 5, 2005, FAA published FAA Notice 8000.309 to clarify dispatching operations during precipitation conditions of ice pellets, snow pellets, or other icing events for which no hold over times exist. Holdover time is the estimated time deicing/anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft (i.e. wings).
 - *FAA learned that several air carriers continued to operate in ice event conditions and considered such operations a risk to the safety of the flight.* FAA required that any deicing/anti-icing program or plan with approval to operate in these conditions should be removed from that operator’s plan until sufficient scientific data is obtained to show that such operations can be conducted safely.
- FAA provided some relief in August 2006 when it allowed aircraft to takeoff in light ice pellet conditions, with no other forms of precipitation present. A twenty-five minute takeoff “allowance time” or hold over time beginning with the start of the anti-icing fluid application was allowed. If the takeoff (wheels up) cannot be accomplished within that 25 minute window the airplane must return to the de-icing area to be de-iced again.
- According to the Air Transport Association, at large hub airports the 25 minute hold over time was essentially meaningless because it is almost impossible for airplanes to takeoff within that time (deicing/anti-icing takes about 18 minutes leaving only 7 minutes to get wheels up.)
- This only affects US carriers; foreign air carriers are not governed by these rules. **Foreign air carriers follow the International Civil Aviation Organization (ICAO) rules for operations and not the Federal Aviation Regulations that bound the US air carriers.**

Updated

FACT SHEET

- Ice pellets have not been the cause of any large commercial jet crashes.

DISCUSSION POINTS

- This only applies to US domestic carriers. Foreign carriers are not bound by the Federal Aviation Regulations. Therefore in ice pellet weather situations, foreign air carriers are departing while US air carriers are stuck on the ground.
- Ice pellets were a significant factor in the numerous delays and cancellations experienced on February 14, 2007 and March 16, 2007. The 2006 clarification and policy changes issued by FAA to the 2005 ice pellet rules adversely affected flights departing JFK. Essentially flights were prohibited from taking off even under the 25 minute hold over because it took more than 25 minutes to de-ice and depart from JFK.
- The Airline Pilots Association (pilots' union) supports the increased rules for ice pellet events.
- The Air Transport Association (ATA) does not support the increased rules for ice pellet events. On March 22, 2007, the ATA sent a request to the FAA Administrator to review the "ill-conceived policy."

New:

- According to an ICAO journal dated November 2006: "Most advanced current systems are based on combining measurements from several sensors at the system level." Also, "...some fundamental limitations remain. One key limitation is the performance of precipitation type detectors. Current sensors still make more errors than many users are willing to accept, and some important forms of precipitation, such as hail and **ice pellets**, are either poorly or incorrectly identified."

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Title: Review of December 2004 Holiday Air Travel Disruptions

Date: February 28, 2005

Type: Audit

Project ID: SC-2005-051

Summary: Pursuant to Secretary Mineta's request of December 27, we issued a report on our review of the travel disruptions experienced over the December holiday travel period by Comair and US Airways. In conducting this review, we worked closely with the Department's Office of Aviation and International Affairs and Office of General Counsel. We found that Comair's problems were a function of severe weather at Cincinnati and failure of the computer system it used to schedule its crews. In Cincinnati, Comair's flight cancellations and delays ultimately affected over 260,000 passenger itineraries. Comair has temporarily addressed its computer problems with an interim fix that will double capacity until a new crew scheduling system can be installed this summer.

Additionally, we found that US Airways' problems centered on staffing shortfalls going into the holiday travel period in two critical functions—fleet service employees and flight attendants, particularly at its Philadelphia hub. Plans to offset the staffing shortages through overtime and increasing the required number of hours worked by flight attendants did not work. US Airways canceled 405 flights during the holiday travel period, affecting more than 46,000 passengers and delayed over 3,900 flights affecting over 518,000 passengers.

US Airways has subsequently made an intensive effort to increase staffing at its Philadelphia baggage operations and is increasing the monthly flying obligations of its flight attendants by 5 to 10 hours. However, with the airline in bankruptcy, increasing their flight operations, decreasing pay, and asking flight attendants to work additional hours, it is unclear whether those actions will prevent a similar situation from occurring in the future.

[Click here for a statement by Secretary Mineta regarding this action.](#)

Full document:  [PDF document](#)

Related Information: [OIG](#)

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